UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
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SUBJECT: EPA Data for Dimock HW 47 17 February 2012

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From a toxicological perspective, I reviewed the summary of analytical data for HW47 in Dimock, Pennsylvania.* The samples were collected and analyzed by U.S. EPA in February 2012, and adhered to strict QA/QC and data validation procedures. Conclusions of significance for HW47 are presented below:

General Comment

For HW47, four samples were submitted to the laboratory for analysis:

- one unfiltered sample collected from as close to the wellhead as possible
- one filtered sample collected from as close to the wellhead as possible
- one unfiltered sample collected from the tap
- one filtered sample collected from the tap

While each of these samples provides valuable information, for the purpose of evaluating potential risks, unfiltered samples from the tap most represent exposure. Consequently, any projections of risk provided below are based on unfiltered sampling results from the tap.

Arsenic

Irrespective of sampling location or filtration state, arsenic results from HW47 were similar, ranging from 90.2 to 94.2 ug/L. The unfiltered sample collected from the tap of HW47 contained arsenic at 91.1 ug/L. This level exceeds the MCL for arsenic (10 ug/L) and also represents an excess cancer risk of 2E-03 (or two in 1000), exceeding U.S. EPA's benchmark for an imminent and substantial threat (1E-04) by an order of magnitude. Additionally, in terms of non-cancer endpoints, the calculated Hazard Quotient is 20, also representing an imminent and substantial threat. The primary risk associated with arsenic in tap water occurs through ingestion.

Manganese

Manganese was detected close to the wellhead at 947 ug/L (total) and 877 ug/L (dissolved). However, at the tap, manganese was non-detect. This implies that some type of filtration unit is present in this home, removing manganese from ground water before it reaches the tap. The levels of manganese at the wellhead could pose a significant non-cancer threat (Hazard Quotient = 3), so maintaining the pre-tap filtration system is important for these residents.

Sodium

Sodium was observed at the wellhead at up to 56,400 ug/L (dissolved) and at the tap at up to 93,900 ug/L (total). The reason for higher levels at the tap, compared to the wellhead, is not clear. U.S. EPA does not have established toxicity values for sodium, but the Office of Water has advised a maximum concentration of 20,000 ug/L for individuals on sodium-restricted diets.

If you have any questions about these comments, please let me know.

*The data summary evaluated for this assessment was provided by OSC Rupert on 16 February 2012, with final validation submitted on 17 February 2012. The file was sent as an attachment (HW47.pdf) via e-mail.